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Instructions for use

NEW AND SOME RARE SPECIES OF *ELATERIDÆ* FROM THE JAPANESE EMPIRE

By

Y. MIWA

(With one Text Figure)

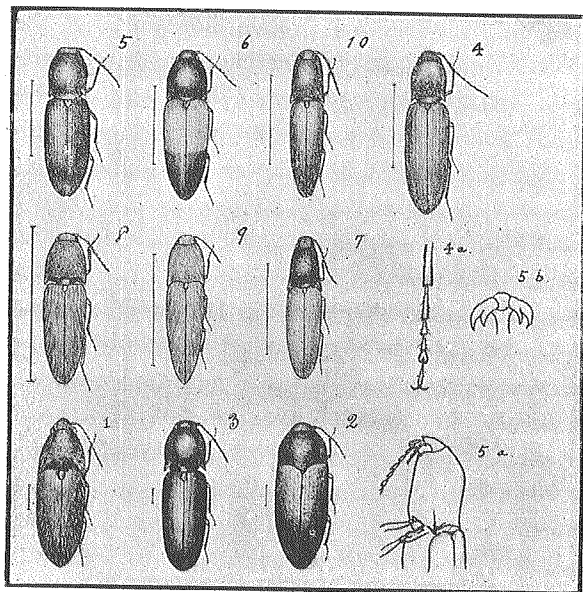
I have already given the descriptions of nineteen new *Elaterid*-species of the Japanese Empire in the preceeding paper. Now I have studied about the four subfamilies, namely, *Physorrhiniinae*, *Hypnoidinae*, *Cardiophorinae* and *Melanotinae* of the Japanese *Elateridae* (Formosa, Corea, Loo-Choo and Saghalien included), including eighty-six species under thirteen genera. Twenty-three of these species have been newly recorded. I intend to enumerate here these members with the descriptions of new species.

These are the preliminary reports on way to make a revised monography of the *Elateridae* of the Japanese Empire. In the next paper I shall enumerate about the two subfamilies, namely, *Athoinae* and *Corynbitinae*.

Synopsis of Subfamilies and Genera.

- 1 Prosternal process short, truncated; mesosternal groove horizontal, at the anterior part suddenly incurved rightangularly; scutellum usually heart-shaped *Cardiophorinae* (2, 2').
- 1' Prosternal process not truncated; mesosternal groove inclined, rarely horizontal, but not incurved rightangularly; scutellum never heart-shaped
..... (4, 4').
- 2 4th tarsal joint cordate and more or less dilated Genus *Cardiotarsus*.
- 2' Tarsal joints usually simple (3, 3').
- 3 Lateral borders of the prothorax (boundary line between the pronotum and propleuron) mostly absent and if present, they are curved downwardly, more or less obsolescent at the anterior part Genus *Cardiophorus*.
- 3' Lateral borders rectilinear, distinctly running the entire length
..... Genus *Paracardiophorus*.
- 4 Basal plates suddenly dilated inwardly; claws not pectinated (5, 5').
- 4' Basal plates gradually or sometimes rightangularly dilated inwardly; claws usually pectinated *Melanotinae* (8, 8').

- 5 Prosternal sutures straight or slightly incurved; 3rd tarsal joint lamellated *Physorrhiniinae* Genus *Anchustus*.
 5' Prosternal sutures usually excurved and partly or entirely closed; 3rd tarsal joint sometimes lamellated *Hypnoidinae* (6, 6').
 6 Prosternal sutures partly or entirely obliterated Genus *Arrhaphes*.
 6' Prosternal sutures distinct in the entire length (7, 7').
 7 Elytra with more or less punctured striae which are finely marked Genus *Hypnoidus*.
 7' Elytra without any stria Genus *Quasimus*.
 8 3rd tarsal joint dilated Genus *Psellis*.
 8' Tarsal joints usually simple (9, 9').
 9 Prosternal process horizontal Genus *Spheniscosomus*.
 9' Prosternal process gradually or rightangularly incurved behind the coxal cavities (10, 10').
 10 Basal plates denticulated at the middle; prosternal sutures closed entirely Genus *Neodiplocomus*.
 10' Basal plates simple, not dentated; prosternal sutures more or less open (11, 11').
 11 Prosternal sutures open entirely Genus *Metriaulacus*.
 11' Prosternal sutures open atmost to the middle part (12, 12').
 12 Prosternal process suddenly incurved rightangularly behind the fore coxae Genus *Cremnostethus*.
 12' Protrenal process gradually and gently incurved Genus *Melanotus*.



Explanation of Text Figures

1. *Hypnoidus brevis* MIWA (n. sp.)
 2. *Quasimus punctatus* MIWA (n. sp.)
 3. *Quasimus angustatus*
 MIWA (n. sp.)
 4. *Cardiotarsus rarus* MIWA (n. sp.)
 4a. Tarsus of *C. rarus*
 5. *Cardiphorus yanagiharae*
 MIWA (n. sp.)
 5a. Lateral view of prothorax of *C. yanagiharae*
 5b. Claw of *C. yanagiharae*
 6. *Paracardiphorus nigro-apicalis*
 MIWA (n. sp.)
 7. *Neodiplocomus ferrugineipennis*
 MIWA (n. sp.)
 8. *Spheniscosomus pilosulus*
 MIWA (n. sp.)
 9. *Spheniscosomus horishanus*
 10. *Metriaulacus formosanus*
 MIWA (n. sp.)

1. *Hypnoidus brevis* n. sp. (fig. 1)

♂, ♀. Black, opaque, with whitish pubescence. Head rather convex, frontal carina well marked, nearly semicircular, and densely granulated.

Prothorax convex and especially elevated longitudinally in the middle part, being the widest at the base, slightly and gradually narrowing to the middle and then suddenly narrowed towards the anterior corner, very densely and unevenly punctated or rather granulated, the hind angles acute, with each a long carina which is prolonged along the lateral border to near the middle.

Elytra punctured striated, the striation being very faint, the interstices with sparse minute punctures. Antenna piceous, basal two joints reddish. Leg dark reddish or fuscous.

Length: 2-3½ mm. Width: 1-1¼ mm.

Hab.—Honshu; Tamagawa 1 ♂, 1 ♀ 24-V, 1914 (H. TAKABAYASHI).

2. *Quasimus punctatus* n. sp. (fig. 2)

♂. Black, with a metallic shining, lacking piles, elliptical in the general aspect. Head impressed longitudinally in the middle, rugosely punctated. Prothorax convex, rather broader than length, with irregular and feeble punctation on the whole surface except on the hind angles, having the same width of the elytra-base, the hind angles lacking any carina. Elytra distinctly sculptured with an irregular punctation, excavated at the side of the upper part of elytron. Antenna and Leg wholly black.

Length: 3 mm. Width: 1 mm.

Hab.—Honshu; Tamba 1 ♂ 15-IX, 1914 (J. ADACHI).

3. *Quasimus angustatus* n. sp. (fig. 3)

♂. Elongate, parallel, pitchy black, with a metallic luster, sparsely short black pubescent. Head convex, foveolated between the eyes, minutely punctured. Prothorax convex, at the sides rather parallel, rounded at the anterior corner, having the same breadth with the base of elytra, the hind angles acuminate behind and scarcely turning outwardly, with a carina which is distinctly marked and prolonged along the lateral border to nearly the middle part, evenly and minutely punctated on the whole surface of pronotum. Elytra more distinctly punctured than that of the thorax, punctation hardly set in row and in some light feebly striated. Antenna black. Leg testaceous.

Length: 2½ mm. Width: ¾ mm.

Hab.—Shikoku; Mt. Sasa in Ehime District 1 ♂ 21-VII, 1916 (Dr. S. MATSUMURA).

4. *Arrhaphes diptychus* CANDÈZE

Arrhaphes diptychus CANDÈZE, Monogr., III, p. 99, t. 2, f. 8 (1860).

Hab.—Formosa; Kô tô sho 1 ♀ (J. SONAN).

Distr.—Ceylon, Colombo, Formosa.

5. *Cardiotarsus rarus* n. sp. (fig. 4)

♀. Fuscous brown, a little shining, with short yellowish piles.

Head flat, minutely punctated, frontal carina well marked and semicircular. Prothorax somewhat obscure, rather opaque, convex, slightly rounded at the sides, narrowing anteriorly as well as posteriorly, with a feeble median channel longitudinally, which is obsoleted in anterior part, punctation very dense and minute on the whole surface, the hind angles short, obtuse behind and scarcely turned outwardly; scutellum excavated in the middle. Elytra punctatestriated, the interstices convex, feebly and rugosely punctured, sutural part somewhat pale in colour. Antenna light brown, rather elongate and slender, basal joint darker. Leg brown, tibia dusky.

Length: 11½ mm. Width: 3 mm.

Hab.—Formosa; Musha 1 ♀ 18-V, 1919 (T. OKUNI and J. SONAN).

6. *Cardiophorus comptus* CANDÈZE

Cardiophorus comptus CANDÈZE, Monogr., III, p. 202 (1860).

Hab.—Formosa; Rônô 1 ♂ V, 1918 (J. SONAN).

Distr.—South Hindustan, Formosa.

7. *Cardiophorus servilis* CANDÈZE

Cardiophorus servilis CANDÈZE, Monogr., III, p. 203 (1860).

Hob.—Formosa; Shôkwa 2 ♂ 20-VII, 1906 (Dr. S. MATSUMURA), Kôshun 1 ♀ 20-V, 1918 (J. SONAN).

Distr.—Bengal, Cambodja, Annam, Formosa.

8. *Cardiophorus systemus* CANDÈZE

Cardiophorus systemus CANDÈZE, Monogr., III, p. 210, t. 13, f. 29 (1860).

Hab.—Formosa; Kôshun 1 ♀ 20-V, 1918 (J. SONAN). Loo-Choo; Okina-wa-honto 1 ♀ V, 1905 (H. KUROIWA).

Distr.—Hindustan, Formosa, Loo-Choo.

9. *Cardiophorus adjutor* CANDÈZE

Cardiophorus adjutor CANDÈZE, Mém. Soc. Liège, (2) V, p. 17, (1873).

Paracardiophorus adjutor SCHWARZ, Deutsche Ent. Zeitschr., p. 37 (1895).

Hab.—Formosa; Tainan 1 ♂ 20–VII, 1927 (S. TAKANO). Loo-Choo; Ishigakijima 1 ♀ V, 1923 (S. HIRAYAMA).

Distr.—Japan proper, Loo-Choo, Formosa.

10. *Cardiophorus yanagiharae* n. sp. (fig. 5)

♀. Black, shining, with short fulvous pubescence. Head convex, the front vertical, slightly excavated between the antennae, carina well marked and semi-circular, very densely and minutely punctated.

Prothorax convex, at the sides rounded, narrowing anteriorly as well as posteriorly, boundary line between the pronotum and propleuron mostly evanescent and scarcely visible at the basal corner, punctation very minute and closely set on the whole surface, the hind angles very short and obtuse behind, the scutellum concave with a fovea at the front and acuminate behind. Elytra punctate striated, the interstices convex, feebly and rugosely punctured. Antenna brown, rather short. Leg brownish yellow, claws reddish and bifurcated.

Length: 10 mm. Width: $3\frac{1}{4}$ mm.

Hab.—Formosa; Tainan 1 ♀ 21–IV, 1926 (M. YANAGIHARA).

11. *Paracardiophorus nigro-apicalis* n. sp. (fig. 6)

♀. Black, rather shining, with testaceous pubescence. Head convex, punctation very dense and uneven, frontal carina distinctly marked transversely. Prothorax convex, the narrowest at the anterior corner, gradually widening and rounded at the middle, then slightly narrowing posteriorly, very densely punctated on the whole surface, the hind angles obtuse behind, slightly turning outwardly, with each a long carina along the side-border; scutellum concave, canalculated longitudinally in the middle and foveolated at the front. Elytra with a yellowish brown colour on the upper half of elytron, sutural part somewhat obscure, with punctured striae, the interstices being minutely punctated. Antenna pitchy, basal joint robust, others slender. Leg concolorous with the antenna, tarsus somewhat paler.

Length: 10 mm. Width: $3\frac{1}{2}$ mm.

Hab.—Loo-Choo; Ishigakijima 1 ♀ V, 1923 (S. HIRAYAMA).

12. *Neodiploconus angulatus* SANDÈZE

Diploconus angulatus CANDÈZE, Monogr., III, p. 297 (1860).

Diploconus separandus KIRSCH, Mitteil. Zool. Mus. Dresden, I, p. 32 (1875).

Diploconus angulatus, FLEUTIAUX, Ann. Soc. Ent. France, LXXXVII, p. 231 (1918).

Hab.—Formosa; Kôshun 1 ♂ 8–VII, 1926 (Author).

Distr.—Hongkong, Malacca, Singapore, Tonkin, Formosa.

13. *Neodiploconus melanopterus* CANDÈZE

Diploconus melanopterus CANDÈZE, *Elat. nouv.*, I, p. 46 (1865).

Diploconus melanopterus, FLEUTIAUX, *Ann. Soc. Ent. France*, (6) IX, p. 144 (1889); LXXXVII, p. 233 (1918).

Hab.—Formosa; Shinchiku 1 ♂ 25-VII, 1918 (J. SONAN, K. MIYAKE).

Distr.—Sumatra, Tonkin, Laos, Annam, Cochinchina, Cambodja, Formosa.

14. *Neodiploconus ciprinus* CANDÈZE

Diploconus ciprinus CANDÈZE, *Elat. nouv.*, I, p. 47 (1864).

Hab.—Formosa; Kōtōsho. One specimen in the collection of the Government Research Institute in Taihoku.

Distr.—Luzon, Formosa.

15. *Neodiploconus ferrugineipennis* n. sp. (fig. 7)

♂. Elongate, black, a little shining, with fulvous pubescence.

Head convex, rounded at the front, frontal carina slightly marked, with strong and dense ocellated punctation when seen under microscope.

Prothorax convex, the narrowest at the anterior corner, gradually widening to the base, the hind angles long, acute and bicarinated; punctation on the whole surface of pronotum being like that of the head, with a broad median channel which is obliterated anteriorly; scutellum convex, nearly oblong, with fine punctation. Elytra reddish brown, striated punctured, the interstices convex, with rugose punctation, at the apex slightly emarginated. Antenna dusky ferrugineous, the 2nd and 3rd joints small, the 2nd the smallest, the 3rd slightly longer, the whole length being nearly equal to the head and prothorax taken together. Leg concolorous with the elytra, claws reddish.

Length: $12\frac{1}{2}$ mm. Width: $4\frac{1}{4}$ mm.

Hab.—Loo-Choo; Okinawa-honto 1 ♂ V, 1911 (Dr. S. MATSUMURA).

16. *Spheniscosomus pilosulus* n. sp. (fig. 8)

♀. Reddish brown, shining, clothed thickly with long tawny piles. Head excavated in the middle, frontal carina projected and angulated at the front of eye, strongly and closely punctated. Prothorax convex, the widest at the base, gradually narrowing anteriorly, punctation rather feeble and sparse on the disk, very closely set on the lateral sides, the hind angles not turning outwardly, obtuse behind, with two carinae, the longer carina prolonged along the lateral borders to near the middle, the basal groove large, not obliquely impressed, the scutellum oblong, feebly punctated. Elytra with punctured striae, the punctation large and strongly impressed, the interstices flat, 2-5 broader, feebly punctured. Antenna reddish brown, the 3rd joint longer than the 2nd and

nearly half the length of the 2nd and 4th taken together. Leg ferrugineous, claws reddish.

Length: 21 mm. Width: $5\frac{1}{2}$ mm.

Hab.—Formosa; Namakaban in Taichû District 1 ♀ 10–VII, 1925 (Author).

17. *Spheniscosomus horishanus* n. sp. (fig. 9)

♂. Reddish brown, shining, with long tawny pubescence. Head impressed triangularly between the eyes and slightly elevated in the middle of the impression, being foveolated at the vertical part, strongly and closely punctated, frontal carina well marked and somewhat rounded outwardly. Prothorax convex, at the sides rather parallel, gradually rounded and narrowing anteriorly, punctation on the lateral sides like that of the head, rather feeble and scattered on the disk, with a feeble median channel which is obliterated in the anterior part, the hind angles obtuse behind, scarcely turned outwardly, with an acute carina, the basal groove acutely impressed, being rather short and oblique; scutellum excavated and rugosely sculptured with an irregular punctation. Elytra with strongly punctured striae, the interstices flat, feebly punctated.

Antenna somewhat dusky, the 2nd and 3rd joints small, the 2nd the smallest and globose, the 3rd being slightly longer. Leg reddish brown, femur somewhat paler, claws reddish.

Length: 16 mm. Width: 4 mm.

Hab.—Formosa; Baibara 1 ♂ 15–V, 1925 (K. KIKUCHI).

18. *Spheniscosomus fuscus* FABRICIUS.

Elater fuscus FABRICIUS, Syst. Eleuth., II, p. 228 (1801).

Cratonychus fuscus ERICHSON, Zeitschr. Ent. III, p. 106 (1841).

Melanotus fuscus CANDÈZE, Monogr., III, p. 335 (1860);—Bull. Soc. Ent. Belg., p. CLV, (1890).

Melanotus fuscus FLEUTIAUX, Ann. Soc. Ent. France, LXXIV, p. 329 (1905); LXXXVII, p. 237 (1918).

Elater hirticornis HERBUST, Natursyst. Ins. Käf., X, p. 47, t. 162, f. 4 (1806).

Hab.—Formosa; Tappan 1 ♀ 29–IV, 1907 (Dr. S. MATSUMURA), Kôshun 1 ♂ V, 1918 (J. SONAN), Niitaka 1 ♀ 9–VII (Author), Baibara 1 ♂ 15–VIII (R. SAITO).

Distr.—Amboina, Sumatra, Ceylon, North India, Birma, Annam, Tonkin, Siam, Cochinchina, Cambodja, Formosa.

19. *Melanotus ventralis* CANDÈZE

Melanotus ventralis CANDÈZE, Monogr., III, p. 324 (1860).

Hab.—Formosa; Horisha 1 ♀ 5–VIII, 1918 (H. KAWAMURA), Rikiriki 1 ♀

26-III, 1924 (N. TANAKA).

Distr.—China, Formosa.

20. *Melanotus castanipes* PAYKULL

Elater castanipes PAYKULL, Fauna Suec., III, p. 23 (1800).

Elater fulvipes GYLLENHAL, Ins. Suec., I, p. 407 (1808).

Perimecus fulvipes KIRBY, Fauna Bor.-Amer., IV, p. 148 (1837).

Cratonychus longipennis KÜSTER, Käf. Eur., XIV, nr. 25 (1848).

Cratonychus inaequalis LE CONTE, Trans. Amer. Philos. Soc., (n. s.), X, p. 476 (1853).

Cratonychus scrobicollis LE CONTE, Trans. Amer. Philos. Soc., (n. s.), X, p. 476 (1853).

Melanotus castanipes CANDÈZE, Monogr., Elat. III, p. 311 (1860).

Melanotus scrobicollis CANDÈZE, Monogr., III, p. 354, t. 5, f. 8 (1860).

Melanotus carinatus MATSUMURA, Jour. Col. Agr. Tohoku, Imp. Univ., Sapporo, Japan, p. 121 (1911).

Hab.—Saghalien; Kawakami 1 ♂ 30-VII, 1924 (Dr. S. MATSUMURA), Ichinosewa 1 ♂ 25-VII, 1924 (Dr. S. MATSUMURA), Solowiyofka 1 ♀ 10-VII, 1910 (Dr. K. OGUMA), Ôdomari 1 ♂ 24-VI, 1922 (J. SHIBUYA). Hokkaido; Mt. Daisetsu 2 ♂, 3 ♀ 4-10-VIII, 1926 (Dr. S. MATSUMURA, T. UCHIDA, H. KÔNO), Nopporo 1 ♂ 10-V, 1925 (H. KÔNO), Sapporo 2 ♀ 27-VI, 1927 (S. MINOWA), Rishiri 1 ♂ 15-VII, 1925 (K. DOI). Honshiu; Mt. Tsubakura 1 ♂, 1 ♀ 27-VII, 1924 (H. KÔNO), Chûzenji 1 ♂ 28-VII, 1914; 1 ♂ 13-VIII, 1915; 1 ♀ 20-VII, 1917 (E. GALLOIS), Towada 1 ♂ 25-VII, 1927 (Author).

Distr.—Europe, Caucasus, Asia-minor, Siberia, Saghalien, Japan proper, North-America, Canada, Mexico.

21. *Melanotus legatus* CANDÈZE

Melanotus legatus CANDÈZE, Monogr., III, p. 323 (1860).

Melanotus legatus CANDÈZE, Mén. Soc. Liège, (2) V, p. 21 (1873).

Melanotus legatus SCHWARZ, Deutsche Ent. Zeitschr. p. 164, t. 2, f. 30 (1892).

Hab.—Kuriles; Fushikotan in Kunashiri Island 2 ♀ 8-VIII, 1925 (K. DOI). Loo-Choo; Okinawa-honto 1 ♀ (S. SAKAGUCHI), Ishigakijima 1 ♀ V, 1923 (S. HIRAYAMA). Formosa; Ranrun 1 ♂ 6-VII, 1925 (Author), Horisha 1 ♀ 16-VII, 1926 (Author). Corea; Séoul 2 ♂ 13-14-VI, 1922 (E. GALLOIS). China; Shisenshō 1 ♀ VI, 1912 (Y. TAKANO).

Widely distributed in the Japanese Empire but hitherto this species unrecorded from Kuriles, Loo-Choo, Formosa and Corea.

This is also new for China.

Distr.—Kuriles, Japan proper, Loo-Choo, Formosa, Corea, China, Birma.

22. *Cremnostethus telum* CANDÈZE

Melanotus telum CANDÈZE, Elat. nouv., V, p. 49 (1893).

Cremnostethus telum SCHWARZ, Deutsche Ent. Zeitschr., p. 197 (1901).

Hab.—Formosa; Rônô. One specimen in the collection of the Government Research Institute in Taihoku.

Distr.—Dardjiling, Formosa.

23. *Metriaulacus formosanus* n. sp. (fig. 10)

♂, ♀. Elongate, fuscous brown, with a metallic luster, fulvous pubescent.

Head convex but slightly impressed between the eyes, coarsely punctated, frontal carina well marked and semicircular. Prothorax convex, at the sides rather straight, narrowing anteriorly, gradually and slightly widening posteriorly, with very even and scattered punctation on the disk, rather closely set on the lateral sides, the hind angles bicarinated, the longer carina much elevated and prolonged along the border to the middle, then gradually evanescent, the basal groove oblique and very distinct. Elytra punctate-striated, the interstices flat, not convex, with feeble and sparse punctation. Antenna reddish brown, serration very distinct, the 2nd and 3rd joints small, globose and being nearly equal with each other. Leg concolorous with the antenna, femur somewhat paler.

Length: $11\frac{1}{2}$ mm. Width: $2\frac{1}{2}$ mm.

Hab.—Formosa; Baibara 1 ♂, 1 ♀ 15-VIII, 1925 (K. KIKUCHI).

— (to be continued) —

摘 要

余は前號に於てハ亞科に付きて研究せる結果の新種十九並びに一新異狀形を列舉し置きたり。本號に於ては三亞科に總括せらるゝ新種十、未記錄種十三を記載せり。研究せる亞科の順位は SCHENKLING の Catalogue に依れり。前號に於て未記錄種の列舉及亞科、屬の檢索表を掲げざりしが、こは他日稿を更めて發表する心算なり。以下本號に發表せる二十三種の和名を示す。

1. <i>Hypnoidus brevis</i> MIWA (n. sp.)	ケジロチピコメツキ
2. <i>Quasimus punctatus</i> MIWA (n. sp.)	ホソチピコメツキ
3. <i>Quasimus angustatus</i> MIWA (n. sp.)	エグリチピコメツキ
4. <i>Arrhaphes diptychus</i> CANDÈZE	フタモンマルチピコメツキ
5. <i>Cardiotarsus rarus</i> MIWA (n. sp.)	ヒラアシハナコメツキ
6. <i>Cardiophorus comptus</i> CANDÈZE	セスザハナコメツキ
7. <i>Cardiophorus servilis</i> CANDÈZE	チャイロケシハナコメツキ
8. <i>Cardiophorus systemus</i> CANDÈZE	コゲチャナガハナコメツキ
9. <i>Cardiophorus adjutor</i> CANDÈZE	アカデシハナコメツキ

10. <i>Cardiophorus yanagiharae</i> MIWA (n. sp.)	ヤナギハラハナコメツキ
11. <i>Paracardiophorus nigro-apicalis</i> MIWA (n. sp.)	ツマグロハナコメツキ
12. <i>Neodiploconus angulatus</i> CANDÈZE	チヤイロホソクシコメツキ
13. <i>Neodiploconus melanopterus</i> CANDÈZE	アカアシホソクシコメツキ
14. <i>Neodiploconus ciprinus</i> CANDÈZE	アカホソクシコメツキ
15. <i>Neodiploconus ferrugineipennis</i> MIWA (n. sp.)	アカバネホソクシコメツキ
16. <i>Spheniscosomus pilosulus</i> MIWA (n. sp.)	ケブカオホクシコメツキ
17. <i>Spheniscosomus horishanus</i> MIWA (n. sp.)	ホリシヤオホクシコメツキ
18. <i>Spheniscosomus fuscus</i> FABRICIUS	ヒラタクシコメツキ
19. <i>Melanotus ventralis</i> CANDÈZE	ハラアカクシコメツキ
20. <i>Melanotus castanipes</i> PAYKULL	ハネナガクシコメツキ (改稱)
21. <i>Melanotus legatus</i> CANDÈZE	クシコメツキ (改稱)
22. <i>Cremnostethus telum</i> CANDÈZE	オホナガクシコメツキ
23. <i>Metriaulacus formosanus</i> MIWA (n. sp.)	ホソツヤクシコメツキ

SOME NEW BUTTERFLIES

By

PROF. DR. S. MATSUMURA

Papilio memnon thunbergi SIEB. (Pl. III, fig. 1, ♀)

ab. *takamukai* n. ab.

♀. This differs from *thunbergi mela* FRUHST. in the following characters:

1. Secondaries on the upperside lacks entirely the white markings.
2. Secondaries on the underside with a few whitish part in the interspace 2 at the innerside of the upper black patch, which is wanted by *thunbergi* SIEB.

This resembles also subsp. *agenor* L., but differs in lacking a broad band which runs along the inner margin of the secondaries.

Hab.—Kiusshu; one single specimen was collected by T. TAMANUKI at Kagoshima.

ab. *shikokuana* n. ab. (Pl. III, fig. 6, ♀)

♀. Differs from subsp. *thunbergi* SIEB. as follows: